

ASSESSING ADULT DEVELOPMENTALLY DISABLED
CLIENT ABILITY TO DISCERN
HORTICULTURAL CROP QUALITY

by

Mary J. Priest
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Approved by:

Richard H. Mattson
Major Professor

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INTRODUCTION

Developmentally disabled adults need to learn all aspects of horticultural crop production before industry placement can occur. This training should include demonstration of work skills needed to produce high quality plants. Training procedures should teach factors that contribute to quality of plant materials, i.e., proper spacing, insects, diseases, fertilization, as well as plant appearance. Items which are used for horticultural crop production should be taught to the client. Training procedures must also include evaluation of the final product of the training process.

This study assessed the ability of developmentally disabled clients to judge plant quality and prepared a sample task analysis procedure. It also evaluated and compared client knowledge of horticultural items.

The results of this study were prepared for publication in Mental Retardation.

ASSESSING VOCATIONALLY TRAINED DEVELOPMENTALLY
DISABLED ADULT ABILITY TO DISCERN
HORTICULTURAL CROP QUALITY

Mary J. Priest, BS

Richard H. Mattson, PhD, HTM

ABSTRACT

Training developmentally disabled clients to discriminate plant quality and identify horticultural items was included in a prevocational training program. This study compared horticultural judging skills of professional horticulturists, horticultural therapy students, developmentally disabled clients, and consumers. Overall, professional horticulturists scored higher than other research groups; horticulturally trained developmentally disabled clients judged plant quality similarly as horticultural therapy students and consumers.

Mary J. Priest is a graduate student in Horticultural Therapy at Kansas State University, Manhattan, Kansas and has a B.S. degree in Ornamental Horticulture from Mississippi State University, Starkville, Mississippi. This study was conducted as partial requirements of the Master of Science Degree at Kansas State University. Dr. Richard H. Mattson is Professor of Horticultural Therapy at Kansas State University, Manhattan, Kansas, 66506.

REVIEW OF RELATED LITERATURE

A study for the United States Department of Labor authorized by Title I of the Manpower Development and Training Act (MDTA), explored the services available to the various types of disabilities, including developmentally disabled, to achieve satisfactory and gainful employment (Greenleigh, et al, 1969). This study defined work evaluation as a measurement of individual physical ability, mental capacity, and aptitude for certain types of work, and concluded that work evaluation needs to be more fully developed. Nelson (1971) cited an example of evaluation in occupational skills in the Work Evaluation and Adjustment Unit of the Rehabilitation Institute of Kansas City, Missouri. More than sixty percent of those who came to the center were placed in employment from 1957 to 1966. Employment was manufacturing subcontracts in the electronics industry.

Becker (1969) designed a technique to measure the interest of developmentally disabled clients in job areas while enrolled in a prevocational evaluation center. One of the job areas evaluated was horticulture. For each area, an itemized list was prepared describing the job skills necessary to perform the task. The study concluded that evaluation for job desirability in the developmentally disabled was possible and successful placement of trainees occurred.

Bitter and Bolanovich (1970) listed criteria for instruments used to measure job readiness and skills achieved which should be strictly met. In 1964-1965, the Work Experience

Center staff of the St. Louis Jewish Employment and Vocational Service explored the feasibility of the Work Adjustment Rating Form (WARF). The WARF is a rating scale constructed primarily for the use of vocational rehabilitation counselors and sheltered workshop trainers and foremen to assess areas of strengths in the developmentally disabled for purposes of training, to assess skills and adjustments to work. In this study the WARF data was analyzed and used to predict future success or failure of developmentally disabled between sixteen and twenty-one years of age in community employment. The authors concluded more measures are needed. The WARF was useful in predicting behaviors of developmentally disabled adults, and the counselor or foreman might adjust or correct behavior prior to employment placement.

Related to employment success or failure of developmentally disabled trainees, an investigation by Chaffin (1969) described the importance of production rate. Chaffin compared the production rates of ten pairs of successful and unsuccessful clients. Employers evaluated the developmentally disabled workers, using a simple assessment of successful or unsuccessful according to employer criteria. A final evaluation was given after two weeks to both employer and the developmentally disabled workers. Analysis of the production rate scores revealed that in every subject judged successful had a higher production rate than the unsuccessful subject. This difference was statistically significant at or beyond the .01 level in

nine out of ten cases. Chaffin increased the production rate of the ten unsuccessful trainees and decreased the production rate of the successful trainees. The production rates influences employers ratings of developmentally disabled employees. The more productive the employee seemed to be, the higher rating was given to the successful employee. Production rate may indicate a client has potential for employment.

Training procedures or learning methods such as task analysis, discrimination ability, conceptual learning and client perception in vocational readiness have been observed. The most frequently used training method in competitive employment is verbal instructions (Wehman and McLaughlin, 1981). With verbal instruction (i.e., modeling, task analysis, etc.), client learning may improve.

Shoemaker (1982) developed a prevocational Horticultural Evaluation Test to measure language identification skills and physical/mental abilities of trainable mentally retarded adults. This was used to test the modeling effectiveness with verbal instruction and repetition as a training technique for trainable mentally retarded in a horticultural prevocational setting. Twenty-eight trainable mentally retarded subjects were given six horticultural training sessions involving three sessions of horticultural item identification and three sessions of review of the items using a videotape format. Modeling of work skills was demonstrated. The study concluded that modeling increased the percentage of subjects correct

response to the horticultural items and increased the score for the horticultural items also.

Bunn, Laviana, and Romig (1981) investigated bedding plants transplanted by adult developmentally disabled clients. The results were expected to provide insight into client readiness for vocational placement in a horticultural setting. Six developmentally disabled subjects and one college student as a control received task analysis instruction in correct transplanting techniques and had transplanted seedlings for six weeks prior to the experiment. Six subjects were instructed to transplant rapidly. Following the experiment, the following seedling characteristics were measured: height of seedlings, distance of seedling from center of the cell pak, and deviation from perpendicular alignment. The study indicated that these measurements of seedlings are useful in assessing client disability as well as potential work readiness.

State and federal agencies in education, rehabilitation, labor, and mental health continue to devote increased attention to vocational and occupational education for developmentally disabled persons. Job placement requires careful attention of the teachers, counselors, and other vocational practitioners. Competitive employment placement of moderately and severely mentally retarded and physically limited persons is difficult, and in many communities the service is almost nonexistent. Yet, competitive employment placement is an excellent vocational goal because of the potential for greater remuneration and integration with disabled co-workers. (Wehman and McLaughlin, 1980).

METHOD

Subjects

Four groups of ten research subjects each were randomly selected to judge flowering and succulent plant quality. These were (1) Horticulturists who were local retailers/wholesalers operating greenhouses, floral shops and landscape nurseries, (2) Horticultural therapy students who were juniors, seniors and graduate students, (3) Adult developmentally disabled clients who were in vocational training at a local sheltered workshop and were educable/trainable mentally retarded, and (4) Consumers who were present at a local plant sale.

Average years of horticultural training and experience for horticulturalists, horticultural therapy students and developmentally disabled subjects were determined. Horticulturists averaged 17.4 years, students averaged 10.9 years and developmentally disabled clients, 2.6 years. Consumers gardening interest and experience was determined to be 15.3 years.

Procedures

Before administering the test, subjects were asked to read and sign an Advised Consent Form (Appendix A). If the subject could not read, the form was read aloud by the test administrator before testing.

All subjects were tested individually. Plant species were judged in random order. Each subject verbally selected the best plant, the second best, third best and fourth best.

Materials

Six species of horticultural plants were used consisting of flowering Tagetes erecta (Marigold), Euphorbia pulcherrima (Poinsettia), and Begonia semperflorens (Waxleaf begonia), and succulents Aloe vera (Medicine plant), Euphorbia trigona, (Euphorbia cacti), and Crassula argentea (Jade plant). Plants were grown in 10 cm green, plastic pots. Plants are presented in Plates 1 and 2.

Evaluation

The plant judging scoring for the flowering and succulent species was based on judging criteria for flowering pot plant and foliage plants in the Pi Alpha Xi scoring table from the Manual for Flower Judging (Pfahl, et al, 1970). Criteria for plant judging presented in the Manual is recommended by the Society of American Florists (SAF). Using the SAF scoring table (see Appendix B), judging scores for both flowering and succulent species were based on a maximum total of 100 points per class. Succulents are judged on the same merit system as foliage plants by the Society of American Florists.

Three floriculture faculty members assigned a "correct" placement of each group using SAF scoring criteria. Plants within each class were then randomized. Subject groups were randomly assigned in the following order: Horticulturists, horticultural therapy students, clients, and consumers.

Data Analysis

Analysis of data was accomplished using the ANOVA procedure of the Statistical Analysis System (SAS Institute, Inc., 1982). Means were compared using the Duncan's Multiple Range Test for all variables.

RESULTS AND DISCUSSION

Judging Ability

Research Group Comparisons

As shown in Table I, horticulturists scored significantly higher than other groups in combined judging of all six species. Out of a possible score of 600 points, the horticulturists scored 527.7 (88%). This superiority was expected and was consistent for both flowering and succulent plants.

Developmentally disabled clients have a similar ability to discern crop quality as students and consumers. Student, client and consumer scores were statistically similar on combined scores. Students scored 457.4 (76%), clients scored 439.2 (73%) and consumers scored 411.8 (69%).

Horticultural experience and perception of quality were believed to be major contributors to accurate judging. High scores for horticulturists reflected experience in production of marketable plants. Perception of quality included objective evaluation of size, color, and healthy appearance; categories which are most closely associated with those of SAF. Students, although educated to distinguish horticultural assets which results in objective evaluations of high quality plants, lack

production experience. Student scores were expected to be more comparable to the horticulturalists. Developmentally disabled clients have received limited training in horticultural skills needed to produce a marketable plant, and also lack production experience. Consumers received no training in SAF criteria and their low scores may indicate that judging was also based on subjective evaluations.

Flowering Species

As shown in Table II, clients judged Euphorbia pulcherrima as well as horticulturists and significantly better than students or the consumer groups. Clients judged Tagetes erecta as well as the general public, but significantly poorer than students and horticulturists. Begonia semperflorens had less obvious quality differences and were, therefore, a more difficult species to judge for all groups as indicated by the relatively low scores and statistically similar means among the groups.

Succulent Species

Mean scores for subjects on scoring succulents is shown in Table III. Developmentally disabled clients judged Aloe vera and Crassula argentea quality statistically as well as horticulturists. A proportional relationship existed between size and cultural perfection in these species, whereas size was the indicator of cultural perfection for clients. All groups judged Euphorbia trigona statistically similar because of mechanical damage which occurred in the largest plant and influenced the accuracy of judging by all subjects.

Task Analysis Procedure

A task analysis procedure for developmentally disabled clients is presented in Table IV. This procedure is scored with correct selection = designated SAF points; incorrect selection = 0; and no response = (-). These values are multiplied by weighted points assigned in five criteria for judging flowering pot plants and foliage plants. Maximum scoring for each judging class is 100 points. This procedure presents an objective discrimination of plant quality. The client who can score successfully has the skill to identify characteristics that represent quality.

Conclusion

The results of this study indicated that developmentally disabled clients who received limited training in horticulture have an ability to discern plant quality as well as the general public, and in some cases, even better. Components of plant quality can be objectively delineated and taught to developmentally disabled clients through task analysis procedures. Subjective preference influenced judging by consumers.

Developmentally disabled client training in horticulture should be comprehensive. Training should be oriented to basic skills using task analysis. Horticultural therapists are, in effect, not only trainers, but also must fulfill a management role in production of plant materials placed on competitive markets. The obligation of training clients to produce plants of high quality should be met. Horticultural

therapists should receive intensive training and evaluation in horticultural skills needed to train developmentally disabled clients for production situations. Knowledge of horticultural items, more proficient production, and discriminating plant quality will maximize client employment potential in horticultural careers.

TABLE I
MEAN SCORES FOR JUDGING FLOWERING AND SUCCULENT SPECIES
QUALITY BY FOUR RESEARCH GROUPS

GROUP	TOTAL MEAN ^Z	FLOWERING ^Y	SUCCULENT ^Y
Horticulturists	525.7 a ^X	257.8 a	268.1 a
Students	457.4 b	222.8 b	234.6 ab
Clients	439.2 b	212.0 b	227.2 ab
Consumers	411.8 b	196.4 b	215.4 b

^XMeans in the same column followed by the same letter are not significantly different at $p < .05$ (D.M.R.T.)

^YMaximum score = 600 points

^ZMaximum score = 300 points

TABLE II
 MEAN SCORES FOR JUDGING FLOWERING SPECIES QUALITY BY
 FOUR RESEARCH GROUPS^z

<u>GROUP</u>	<u>Euphorbia</u> <u>pulcherrima</u>	<u>Tagetes</u> <u>erecta</u>	<u>Begonia</u> <u>semperflorens</u>
Horticulturists	95.0 a ^y	96.4 a	66.2 a
Students	70.2 b	89.6 a	63.0 a
Clients	85.1 a	75.3 b	51.6 a
Consumers	66.4 b	84.4 ab	45.6 a

^yMeans in the same column followed by the same letter are not significantly different at $p < .05$ (D.M.R.T.)

^zMaximum score = 100 points per class

TABLE III
 MEAN SCORES FOR JUDGING THREE SUCCULENT SPECIES
 QUALITY BY FOUR RESEARCH GROUPS^z

<u>GROUP</u>	<u>Aloe</u> <u>vera</u>	<u>Crassula</u> <u>argentea</u>	<u>Euphorbia</u> <u>trigona</u>
Horticulturists	94.0 a ^y	93.7 a	80.4 a
Students	71.8 b	78.5 ab	84.3 a
Clients	82.9 ab	65.5 ab	78.8 a
Consumers	76.8 b	59.3 b	79.3 a

^yMeans in the same column followed by the same letter are not significantly different at $p < .05$ (D.M.R.T.)

^zMaximum score = 100 points per class.

TABLE IV

TASK ANALYSIS PROCEDURE FOR DEVELOPMENTALLY DISABLED

JUDGING TRAINING OF FOLIAGE AND FLOWERING PLANTS

Instructional Objective: Training developmentally disabled client discrimination of plant quality based on Society of American Florists (SAF) criteria and point scoring.

Two foliage/flowering plants are set in front of client. Client is asked to select one of the plants from the task analysis.

SAF Criteria for Foliage/ Flowering Plants	SAF Points	Task Analysis	Response/ Client		
			1	2	3
1- Cultural perfection	40	1- Select the largest plant			
2- Proper proportion of plant to pot	20	2- Select the best shaped plant			
3- Vigorous foliage/ Floriferousness	20	3- Select greenest, most healthy plant or with brightest flowers			
4- Free from residue or mechanical damage	10	4- Select plant without broken leaves or white spots			
5- Free from insects or disease	10	5- Look closely at plants. Select plant without insects or brown spots on leaves			
TOTAL POINTS	100	TOTAL POINTS			

Correct selection = designated SAF points; incorrect selection = 0; no response = (-)

PLATE 1

FLOWERING SPECIES

Euphorbia pulcherrima

(Poinsettia)

Correct placement = A-B-C-D

Tagetes erecta

(Marigold)

Correct placement = A-C-B-D

Begonia semperflorens

(Waxleaf Begonia)

Correct placement = B-A-D-C



PLATE 2

SUCCULENT SPECIES

Aloe vera

(Medicine Plant)

Correct placement = B-A-D-C

Crassula argentea

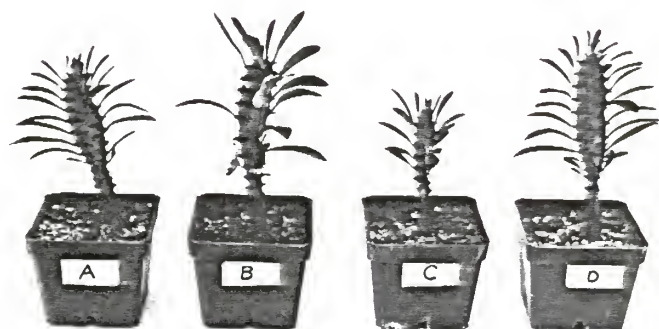
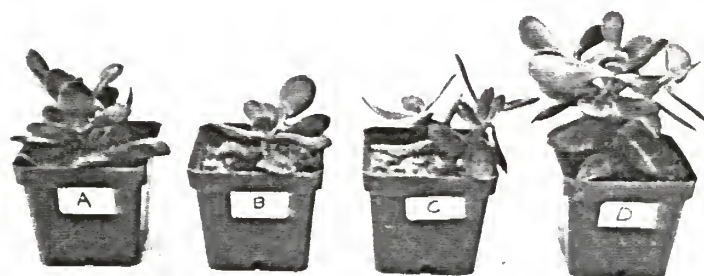
(Jade Plant)

Correct placement = D-A-C-B

Euphorbia trigona

(Euphorbia Cactus)

Correct placement = D-A-C-B



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APPENDIX A
SUBJECT ORIENTATION STATEMENTS
INFORMED CONSENT STATEMENT

SUBJECT ORIENTATION STATEMENT

You have been asked to be a subject in a research study being done by the rules at Kansas State University. If you help us, we can learn new things about how plants look. You don't have to be a subject if you don't want to. I hope you will take part, but if you want to leave during the study, you may. Nothing bad will happen to you.

The study is not dangerous at all.

You will be asked to do two things:

(1) Four plants will be set on a table in front of you. You will be asked to pick the best plant, then the second best, third best, and fourth best. This will be done six times.

(2) Then, ten items will be placed in front of you and you will be asked to name them.

The tester will write your answers on a scoresheet.

The test will not take long and you should take your time so that you may do your best. If you have trouble with the answers, don't feel bad, you will still be helping me out a great deal.

No one will know your scores or how well you did on the tests.

I am very grateful for your help with my study. Do you have any questions?

SUBJECT ORIENTATION STATEMENT

This research study is being conducted under guidelines established by Kansas State University. You will be asked to rate six (6) groups of plants according to their appearance. Your cooperation will help to provide important research answers on judgment of plant quality. Your participation is strictly voluntary. If this study unduly invades your privacy or is offensive to you, you may withdraw from the study, at any time, with absolutely no penalty. Anonymity is guaranteed and your name will not be associated with your answers in any public or private report of the results.

If you have any questions regarding this study or your rights as a subject, please contact Mary Priest at telephone number 532-5944 or Dr. Richard H. Mattson at 532-6170. We will be glad to answer any questions or provide information on this study.

Do you have any questions?

INFORMED CONSENT STATEMENT

1. I, _____ volunteer to participate in a project in connection with research studies to be conducted by Kansas State University.
2. I fully understand the purpose of the study as outlined in the orientation statement.
3. I also understand that my performance as an individual will be treated as research data and will in no way be associated with me for other than identification purposes, thereby assuring anonymity of my performance and response.
4. I understand that I am a volunteer for this research, and that I may decline to participate with no penalty or loss of benefits to which I am otherwise entitled.
5. I hereby agree not to give information regarding these studies to any public news media nor to publicize any articles or other accounts thereof without prior written approval of Kansas State University.
6. If I have any questions concerning my rights as a test subject, injuries or emergencies resulting from my participation or any questions concerning the study, I understand that I can contact Mary Priest at 532-5944 or Dr. Richard H. Mattson at 532-6170.

I have read the Subject Orientation and Test Procedures statement and signed the herein Informed Consent statement, this _____ day of _____, 19 _____.

Signature _____

Sign and return on copy. The second copy is for your records.

INFORMED CONSENT STATEMENT

If you want to be in this study, please sign on the line below:

Subjects: I understand what is asked of me and what will happen in this study. I want to be in it.

Date _____ Name _____

Parent or Guardian: I have read the statement on the reverse side and understand the method of testing to be used on my child or ward in this study. I understand the potential risks as described and do hereby assume them voluntarily on behalf of my child or ward.

Date _____ Signature _____

APPENDIX B
PI ALPHA XI AND SOCIETY OF AMERICAN FLORISTS
SCORING VALUES FOR FLOWERING
AND SUCCULENT PLANTS
CHART FOR COMPUTING SCORES ON CLASSES JUDGED

SCALE OF POINTS FOR FLOWERING POT PLANTS

Cultural perfection	40
Floriferousness	20
Size of plant	20
Color of bloom	10
Size of bloom	<u>10</u>
	100

SUCCULENTS¹

Cultural perfection	40
Proper proportion of plant to pot	20
Vigorous foliage	20
Free from residues and mechanical damage	10
Free of insects and diseases	<u>10</u>
	100

¹SAF and Pi Alpha Xi have no established criteria for judging succulents and in actual judging contests, use foliage characteristics to judge succulent quality.

CHART FOR COMPUTING SCORES ON CLASSES JUDGED

Grade for Placings

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
(1) ABCD	100	87	88	75	76	63	75	62	70	56	57	44	57	43	45	31	38	25	38	25	26	12	13	0
(2) ABDC	87	100	76	63	88	75	62	75	57	44	70	56	38	25	26	12	13	0	57	43	45	31	38	25
(3) ACBD	88	75	100	87	63	76	57	43	45	31	38	25	75	62	70	56	57	44	25	38	13	0	26	12
(4) ADCB	76	63	87	100	75	88	38	25	26	12	13	0	62	75	57	44	70	56	43	57	38	25	45	31
(5) ABCB	75	88	63	76	100	87	43	57	38	25	45	31	25	38	13	0	26	12	75	62	70	56	57	44
(6) ADCB	63	76	87	100	88	87	25	38	13	0	26	12	43	57	38	25	45	31	62	75	57	44	70	56
(7) BACD	75	62	70	56	57	44	100	87	88	75	76	63	45	31	57	43	25	0	26	12	38	25	0	13
(8) BADC	62	75	57	44	70	56	87	100	76	63	88	75	26	12	38	25	56	44	31	57	43	25	38	26
(9) BCAD	57	43	45	31	38	25	88	75	100	87	63	76	70	56	75	62	44	57	13	0	25	38	12	26
(10) BCDA	38	25	26	12	13	0	76	63	87	100	75	88	57	44	62	75	56	70	38	25	43	57	31	45
(11) BDAC	43	57	38	25	45	31	75	88	76	63	87	100	38	25	43	57	31	45	70	56	44	62	75	70
(12) BDCA	25	38	13	0	26	12	43	57	63	76	100	87	100	87	88	75	76	63	12	26	0	13	38	25
(13) CABD	70	56	75	62	44	57	45	31	57	43	25	38	100	87	76	63	88	75	31	45	44	62	75	56
(14) CADB	57	44	62	75	56	70	26	12	38	25	44	57	87	100	100	87	63	76	0	13	26	25	38	57
(15) CBAD	45	31	57	43	25	38	70	56	75	62	44	57	88	75	87	100	75	88	25	38	31	45	43	57
(16) CBDA	26	12	38	25	0	13	57	44	62	75	56	70	76	63	87	100	100	75	88	13	12	26	25	38
(17) CDAB	38	25	43	57	31	45	13	0	25	38	12	26	75	88	63	76	100	87	56	70	44	57	45	57
(18) CDBA	13	0	25	38	12	26	38	25	43	57	31	45	63	76	75	88	87	100	44	57	56	70	62	75
(19) DABC	56	70	44	57	75	62	31	45	25	38	57	43	12	26	0	13	38	25	100	87	88	75	76	63
(20) DACB	44	57	56	70	62	75	12	26	0	13	38	25	31	45	25	38	57	43	87	100	76	63	88	75
(21) DBAC	31	45	25	38	57	43	56	70	44	57	75	62	0	13	12	26	25	38	88	75	100	63	87	76
(22) DBCA	12	26	0	13	38	25	44	57	56	70	62	75	25	38	31	45	43	57	76	63	87	100	75	88
(23) DCAB	25	38	31	45	43	57	0	13	12	26	25	38	56	70	44	57	75	62	75	88	63	76	100	87
(24) DCBA	0	13	12	26	25	38	25	38	31	45	43	57	44	57	56	70	62	75	63	76	75	87	100	100

APPENDIX C
THE HORTICULTURAL EVALUATION TEST

THE HORTICULTURAL EVALUATION TEST (H.E.T.)

The Horticulture Evaluation Test (H.E.T.) was administered to the developmentally disabled subjects to assess their ability to identify seventeen items which are commonly found in greenhouses. The items (flat, hose nozzle, leaf, etc.) were divided into four categories: horticultural containers, plant media, horticultural tools, and plant anatomy. The scores obtained from this study were compared to the Shoemaker (1982) pre-test and post-test results.

As presented in Figure 1, mean scores for this study (December, 1983) had increased for three of the four categories from those taken in August and September, 1982. This indicated that developmentally disabled clients gain horticultural identification skills through training. Plant media was the only category which presented a decrease. This is a result of difficulty for clients to differentiate between types of media such as "soil" and "peat moss". Plant morphology was the highest scored category overall. Horticultural containers identification increased the most. Clients were generally able to identify the function of an item if not the actual name of the item. For example, "Plastic label" was identified as "Names plants". This is also consistent with findings of the Shoemaker (1982) study.

The H.E.T. is effective in evaluating language and horticultural knowledge skills. Identification or recognition of items is important for training developmentally disabled

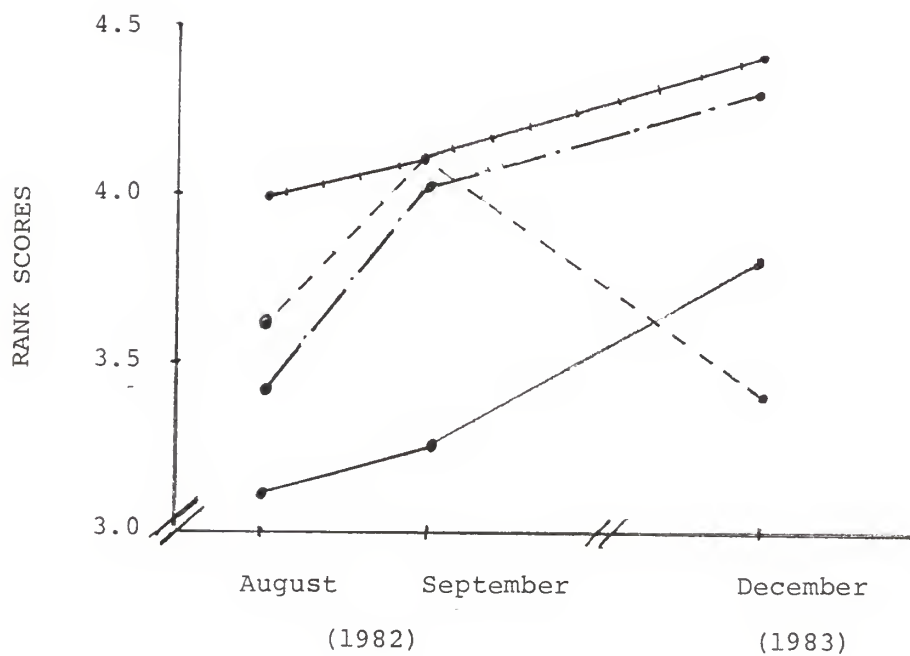
clients involved in horticultural programs in order to supplement skills already achieved.

FIGURE 1

CHANGES IN HORTICULTURAL EVALUATION TEST

MEAN SCORES OF WORKSHOP SUBJECTS OVER SIXTEEN MONTHS

(5.0 = CORRECT IDENTIFICATION)



KEY

Horticultural Containers _____
 Plant Media — — — —
 Horticultural Tools — . — . —
 Plant Morphology _____

TABLE V
 CATEGORY MEAN SCORES FOR AUGUST, SEPTEMBER, 1982,
 AND FOR DECEMBER, 1983 HORTICULTURE EVALUATION TESTS.^z

<u>Category</u>	<u>1982</u>		<u>1983</u>
	<u>August</u>	<u>September</u>	<u>December</u>
Horticultural Containers	3.1	3.2	3.8
Plant Media	3.6	4.1	3.4
Horticultural Tools	3.4	4.0	4.3
Plant Morphology	4.0	4.1	4.4

^zMaximum score per category = 5.0

ASSESSING ADULT DEVELOPMENTALLY DISABLED CLIENT
ABILITY TO DISCERN HORTICULTURAL
CROP QUALITY

by

Mary J. Priest
B.S., Mississippi State University, 1981

AN ABSTRACT OF A MASTER'S THESIS

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Comparisons were made of horticultural judging skills of groups of ten horticulturists, horticultural therapy students, developmentally disabled clients and consumers for flowering species Euphorbia pulcherrima, Tagetes erecta, Begonia semperflorens, and succulent species Aloe vera, Crassula argentea, and Euphorbia trigona.

Overall, horticulturists scored significantly higher in total plant judging than other groups. Developmentally disabled clients judged plant quality similarly as did horticultural therapy students and consumers, in most cases. All groups scored higher for succulent species ($\bar{X} = 236.3$) than for flowering species ($\bar{X} = 222.2$) because of distinct differences in sizes as well as apparent cultural perfection. Developmentally disabled clients demonstrated a basic concept of quality in judging healthy foliage and floriferousness, but had difficulty in distinguishing less obvious quality differences between plants.

The Horticultural Evaluation Test (H.E.T.) was administered to developmentally disabled clients to evaluate their cognizance and retention capability of horticultural items. Compared to 1982 studies, these results indicate a continued increased ability to recognize and verbally identify horticultural items from 74% to 80%.

Horticultural identification skills and the ability to discriminate plant quality are important in horticultural training programs. Horticultural therapists must continue to train developmentally disabled clients to establish a broad horticultural knowledge base in order to maximize employment potentials.